There is also some voluntary development of agriculture by 241

nomads. There are Mongols in the Baitik Bogda who are both herders and cultivators.[3] Farming began among some of the Torgut Mongols along the Chingho, west of Manass, at the beginning of the present century.[4] In 1943, Kazakhs dug an irrigation canal from the bank of the Kunges, one of the main affluents of the Ili. Two kinds of change take place along the southern foot of the Tien Shan. Uighur owners of sheep in the oases send them up to the alpine meadows of the Kirghiz to pasture, and near Bai and Uch-Turfan Kirghiz, crowded out of these pastures, have taken to farming in the Taushkan and Kharabagh Valleys.[5]

Oasis Farming

There are two kinds of oases in Sinkiang: the oases of the south, which are sharply isolated from each other by desert stretches, and the oases of the north, which have fringes of land in which rainfall farming can be carried on, or still wider fringes of grazing land. The typical characteristics of oasis life are therefore much more sharply accentuated in the south. 133 241

The first oasis makers were probably men who lived along the banks of the rivers in the desert, and in the marshes, where they caught fish, hunted, and gathered wild food crops. A "crop" of the Lopliks of the Lob Depression, the most primitive surviving community in the Tarim Basin, is the tender shoots of the marsh reeds. When irrigation began, it seems to have been practiced first on the lower courses of the rivers, where the soil was soft and the engineering problem required only the digging of simple ditches from the banks of the streams. In the course of time, as knowledge of engineering developed, the tendency was for the oasis to move upstream toward the boulder slope at the edge of the foothills, but not back into the gorges where the engineering problems were far too great. There were three reasons for the upstream shift: out on the plain, the slow speed of the water 241 312

[3] Douglas Carruthers, *Unknown Mongolia*, London, 1913, Vol. II, p. 462.
[4] Sung Po-lu, *History of Sinkiang*, 1913, chuan 2, p. 8 (in Chinese).
[5] R. C. F. Schomberg, "The Habitability of Chinese Turkestan," *The Geographical Journal*, Vol. LXXX No. 6, Dec. 1932, p. 510.

1; Lattimore H-4 (no date) 1950 AI1 Sinkiang AI1

241 312 silted up the canals; the flat level did not allow sufficient drainage from the fields, which gradually accumulated salts; the communities upstream had first access to the water. The drying up of Inner Asia has been blamed for the abandonment of ancient oases found out in the desert, but it is probable that the causes just described are more important than any change of climate in the last two thousand years.

312 Oasis engineering remains extremely simple. The basic pattern is a main canal from the river, branching into smaller canals, which branch in turn into the ditches which deliver water to the fields, all arranged so that water flows by gravity from level to level, without the pumping or bailing devices which are widely used in China and in Soviet Turkistan to lift water from lower to higher levels.[6]

[133] Of the rivers of Sinkiang, the most important for irrigation is the Yarkand Darya, known in its upper reaches as the Zaraf-shan.[7]

[6] Two kinds of weirs are used to divert water from the river into the takeoff canal. Field notes of an Academia Sinica expedition describe a solid weir which was examined at the point where the Aksu Darya forks into two streams, the Kone Darya or Old River and the Yangi Darya or New River. A fork of this kind is often formed when a river channel silts up and later a freshet of high water comes down the choked channel; the force of the water bursts out at one side of the old main channel, and a subsidiary stream is formed, flowing away from the main stream. Since the Old River irrigates the oases of Aksu and Avat, a solid weir was built to divert some of the water of the New River back into the Old River. Trunks of the *toghrak*, or wild desert poplar, were used as stakes. Between these, cribs were woven with smaller branches and twigs and filled with stones and rubble. A weir of this kind is of limited efficiency. When the river reaches flood level in July and August the weir is battered down, too much of the water of the Aksu Darya discharges into the New River, and the crops in the oases fed by the Old River are imperiled. Solid weirs are used on the larger streams. On smaller streams, where the irrigators hope to be able to control the flow of water, draw-weirs are made with openings or sluices. In some localities, such as Kargalik, instead of building permanent sluice gates or panels the sluices are closed temporarily with rubble.

[7] The Yarkand Darya has also repeatedly changed its course. Thus the brilliant Chinese scholar Hsu Sung described how two tributaries of the Yarkand Darya joined in the second decade of the nineteenth century to form the oasis of Merket, but Sir Aurel Stein's maps show that the present

1: Lattimore H-4 (no date) 1950 AI 1 Sinkiang AI 1

The Khotan Darya, the Konche Darya, and the Kaidu Gol provide enough water for the branching canals and settlements along their courses. The Aksu Darya, the Muzart, which flows to the Kucha oasis, and the Kizil Su or Red River flowing through the Kashgar oasis all fail to supply enough water for the oases on their lower courses.

In volume of discharge the rivers of the Tarim system are far behind the two great rivers of Soviet Inner Asia, the Syr Darya and the Amu Darya.[8] The total discharge of all streams in Sinkiang is about 3400 cubic meters per second, of which about 70 per cent is in the Tarim Basin. The total length of irrigation canals in Sinkiang was reported in 1943 to be 36,000 kilometers. The technique of utilization is defective in many ways. The lack of drainage to provide for washing out the salts deposited by irrigation has already been mentioned. There is a lack of storage lakes and reservoirs and even small-scale tanks, as a result of which it is estimated that from a third to a half of the potential supply runs to waste. A standard calculation, in irrigation engineering, is that a discharge of one cubic meter per second should irrigate over 6000 acres, whereas in Sinkiang the figure is estimated at 2530 acres.

A number of special practices in irrigation deserve description. Of these the most important is the *kariz* or underground irrigation channel, which is the characteristic feature of the Turfan oasis. A *kariz* is built by starting at ground level in the area which is to be irrigated and tunneling at a slight upward incline into the fan of detritus heaped up along the foothill range where it is hoped that water will be found. The tunneling is continued until the water table is reached. From the slope under which the tunnel runs, shafts are sunk down to the tunnel for ventilation. When the underground water is brought out to the open plain, it is carried farther by an ordinary canal. The length of a kariz

---

junction is far downstream from Merket. It is this change of river channels that has probably caused the present severe shortage of water in Merket, the foremost cotton-growing oasis in Sinkiang.

[8] A. N. Kuropatkin, *Kashgaria*, Calcutta, 1882, p. 22.

1: Lattimore H-4 (no date) 1950 AI1 Sinkiang AI1

312 varies from less than a mile to several miles. In addition to Turfan, there are a few *kariz* in the oases of Pichang and Guma, and some years ago they were tried, without much success, on the outer slopes of the extreme eastern Tien Shan, north of Barkul, using skilled workers from Turfan. A *kariz* may be very small: field notes show one in the Komul oasis irrigating only six and a half acres, which is close to the average for this oasis. The most recent figures show the following statistics:

	Number of *kariz*	Total acreage irrigated by *kariz*	Average irrigated acreage per *kariz*
Turfan[9]	370	28,000 acres	76 acres
Toksun	166	10,700 "	65 "
Komul[10]	495	3,700 "	7 "
TOTAL	1,031	42,400	

312 435 The construction of *kariz* involves a heavy capital expense. Stein, some forty years ago, estimated the cost of a single long *kariz* in Turfan at over 300 pounds.[11] A long *kariz* recently constructed cost 50,000 Sinkiang dollars. The risk of failing to find water deters peasants from joining together to dig a *kariz*, and construction is therefore usually undertaken by wealthy landlords who hire labor. Their reward, when they are successful, is a monopoly of the water, which they sell to the peasants in return for a share of the harvest. This form of enterprise is so profitable [454] that some landlords sell all their land and invest entirely in *kariz*.[12]

[9] Ni Chao, "Report on Sinkiang's Irrigation," *Shui-li Wei-yuan-hui yueh-k'an* (monthly of the Conservation Administration), August 1945 (in Chinese).

[10] Huang Yu-hsien, "Irrigation in Hami," *Ching-chi chien-she chi-k'an* (*Quarterly Journal of Economic Reconstruction*) Vol. III, No. 1, July 1944 (in Chinese).

[11] Aurel Stein, *Ruins of Desert Cathay*, London, 1912, Vol. II, p. 361.

[12] This capitalistic turn in the digging of *kariz* is probably a late development. It is likely that in the eighteenth century, when Turfan was ruled by the Khojas, *kariz* were built by exercising the feudal power to demand unpaid labor as an obligation to the lord.

1: Lattimore H-4 (no date) 1950 AI1 Sinkiang AI1

There is a controversy concerning the origin of the *kariz* which has a bearing on the ancient routes by which knowledge of various kinds was transmitted through Inner Asia into China and from China. Huntington asserted that the *kariz* was introduced into Sinkiang from Iran or Transcaspia, about 1780. Pelliot and Stein held almost the same view. On the other hand the eminent Chinese historian Wang Kuo-wei believes that it was first brought to Sinkiang from China after the opening up of the Western Regions in the Han Dynasty. These references do not exhaust the problem, for the *kariz* principle was used by the Greeks on Samos, and by the Etruscans in Italy in the sixth century B.C. In Central Arabia it is known as *saqi*, and in Morocco as *foggara*. Subterranean irrigation canals were also built by the Incas in Peru.

Springs and subterranean flows are supplementary sources of water in some oases. About 50 per cent of the water for irrigation in Komul comes from springs, as against 25 per cent each from *kariz* and rivers. In Kulja and several other large oases springs are used to irrigate rice fields, which require a very steady flow of water. In the miniature oasis of Kumish, south of Toksun, a spring with a discharge of only three cubic meters a day is the sole source of water for the irrigation of about eight acres of land. Closely related to springs are the streams which disappear in boulder fans and emerge again later in or beyond an oasis. The flow of such streams, which are called *sai*, is apt to be fluctuating; but except where they have been tapped by *kariz*, they are an important source of water which has not been fully utilized.

"Tanks" — as they are called in India — or small pits are used for the storage of drinking water in the towns of some oases, but not as reservoirs for irrigation water except in the dying oasis of Maralbashi. Most of the river water is taken off by oases lying upstream from Maralbashi, forcing the cultivators to store water when they can get it and keep it until they need to use it. Unfortunately the main reservoir has now silted up, so that unless a new one is dug the oasis will sooner or later have to be abandoned.

312 133 A unique irrigation device was introduced into the oasis of Komul by the Chinese administrator Chang Yao in the nineteenth century. Because of the exceptionally porous sandy soil in this oasis, he had water carried for miles across the desert in wooden troughs lined with felt. This device is too expensive for present costs.

Although agriculture in northern Sinkiang is also irrigated, cultivation is not so sharply isolated in oases as it is in the south. The main water supply for irrigation comes from the Ili, Manass, and Black Irtish rivers.

Of these the Ili is formed by the confluence of three rivers, the Kash, the Kunges, and the Tekes. The volume discharged by these three rivers at high water is 100 cubic meters per second for the Kash and Tekes and 30 cubic meters per second for the Kunges.

133 731 The Manass is a slow river, but when in flood it is troublesome. It cuts extra flood channels which discharge into marshes just below the Manass oasis, and consequently its terminal lake, Telli Nor, farther out in the plain, is steadily drying up.

The headwaters of the Irtish are in the Altai, where the snow level is much lower than in the Tien Shan. The spring flood therefore comes down six weeks earlier on the Irtish than it does on the Manass, which is beneficial for spring planting.

312 631 423 Wherever irrigation is practiced, water rights are even more fundamental than land ownership. In Sinkiang, there are two bodies of custom and practice with regard to water. One is associated with the *kariz*. The other prevails much more widely, has a complicated history, and a number of variants.

The rights, obligations, and customs associated with the simple practice of leading water in ditches from rivers undoubtedly go back to the ancient form of communal enterprise in which all the members of the community contributed their labor, and the water was shared out not to individuals with proprietary rights in particular fields, but to kinship groups cultivating fields to which they had a collective title.

In a community which is still lacking in large-scale private

money capital, however, it is not surprising that the line at which work actually starts is still determined by the necessity for public labor, which must be assembled and directed by the exercise of public authority in some form. A typical recent example is the digging of an irrigation canal in the small oasis of Chira. As six villages were affected, three hundred men were assembled from these villages under the authority of their own village headmen. The village organization, however, can be superseded by the higher administrative authority of Chinese officials. The general rule is: local undertakings on a moderate scale are carried out within the limits of such co-operation as can be organized by village elders or headmen; enterprise on a large scale requires the intervention of a Chinese official.

At levels below the intervention of Chinese officials, traces of very ancient practices are found. Field investigation in a village in the oasis of Kucha revealed the survival of the "*ketman* of labor," a concept which combines units of labor, land, and water. The *ketman* is a broad-bladed mattock, the most ancient Inner Asian agricultural tool, which to this day is more widely used than the plow. A "*ketman* of labor" is the work of one man contributed throughout the digging of a canal, which entitles him to a "*ketman* of water," enough to irrigate from ten to fourteen acres.

In this village, however, the uniformity of the concept proved not to be reflected in uniformity of water rights. Of the total population about 8 per cent were landlords and rich peasants; but this 8 per cent owned about half of the total water supply. At the other end of the scale 17 per cent of the population had no water rights whatever, and were forced to purchase their water with a share of their crop. In between these two groups, one half of the water was owned by 75 per cent of the households. These families, classified as middle and poor peasants, had rights to an average of one third of a *ketman* of water for each household.

The shuffle which takes place between the contribution of labor and the allocation of water rights is accounted for in various ways. According to the Islamic principle of *mavat*, he who first

1: Lattimore H-4 (no date) 1950 AI1 Sinkiang AI1

423 241 applies water to land has the right to both water and land; but by a legal reasoning which is not difficult to follow, the ancient prescriptive communal right of the man whose labor helps to bring the water to the field can be superseded by the claim of the man who organized the labor and directed the enterprise.

578 423 241 Thus in 1940, in the large oasis of Aksu, the Chinese district magistrate ordered the digging of a canal to open a new settlement at Sachintze, about forty miles south of the district city. Each head of a household applying for land in the new settlement was allotted a section of about one hundred feet on the bank of the main canal. He was then entitled to as much land reaching back from this canal frontage as he could clear and as much water as he needed to irrigate it. Land and water rights were thus combined, and were in proportion to the amount of labor at the disposal of the setder. It is not surprising to find both that quarrels over water rights are chronic, and that those who are powerful and successful within the community in other ways are usually successful also in maintaining and increasing their water rights.

566 •312 423 More than a hundred years ago, at a time when the Chinese or Manchu imperial authority in Sinkiang was exercised only in questions of high policy and rarely interfered with questions of local custom, a Chinese writer recorded the abuses of the Begs or local notables, and the efforts made by the Chinese administration to "persuade" them to concede some of their water rights to poor peasants. In the eighteenth century, a Manchu writer noted that Begs or landed gentry had rights over households of *chakar* or serfs who were obliged to till their land for them.[13] By their claim on the labor of these serfs, the Begs under the doctrine of *mavat* also claimed the right to water from canals dug by the serfs.[14] *Chakar* serfdom still survives here and there. Field investigation revealed a landlord in Kucha with over two hundred

[13] Sung Yin, *A Sketch of Sinkiang*, written in the eighteenth century, published in 1821; Ch. 3, p. 28 (in Chinese).

[14] E. Zalkhina, *Outlines of the Agrarian Problem in Central Asia*, p. 9 (in Russian).

1: Lattimore H-4 (no date) 1950 AI 1 Sinkiang AI 1

566
households of *chakars*, from whom he claimed both labor services 312
and rent in kind. 423

When the water finally gets to the field, its allocation to the cultivator is calculated in terms of the flow for a certain number 312
of hours, according to the width and depth of the canal. Millers 624
have the right only to run water over the wheel, and must then 578
return it to the canal. Such matters, together with the maintenance of registers and the supervision of upkeep, are under the 691
authority of an official called the *mirab*, who is locally elected, 661
which means that in his election the locally influential families 423
usually determine the choice. In addition, Moslem religious officials have certain traditional rights, especially of adjudication. Within localities, disputes are most frequent in the spring, when each cultivator is eager to be the first to get water on his land. Between localities, the most important disputes are between upstream and downstream communities. Disputes have been going on for twenty-five years between Yarkand, which is big and powerful, and Merket, which is smaller but rich in the cultivation of cotton. Quarrels can be carried from lower to higher authority. A dispute between the villages of Punak and Malihalihan, in the subdistrict of Chira, was carried up to the district administrator of Khotan, who decreed that for two days each month in February, April, and June Punak should turn over its flow of water to Malihalihan. The intervention of higher authority is a traditional opportunity for the collection of bribes by Chinese officials.

Oases vary greatly in size but closely resemble each other in 361
structure. Every oasis has a village or town, sometimes a walled 443
city at its center. Larger oases may have several such towns. 463
These centers are called "bazaars" and serve as market places for farm produce. In the larger bazaars there are also artisans such as blacksmiths, carpenters, coppersmiths, cobblers, and wheelwrights. Smaller bazaars, which cannot support many permanent shops, have their market day on different days of the week and the merchants and artisans visit them in rotation.

Around the bazaars are the farms, each with its own home- 361
stead. An important function of an oasis bazaar is the distribution 241
244

[244] of night soil to the farms as fertilizer, and the farms which are 361 nearest to the bazaar and therefore receive the most night soil 241 form a zone of intensive garden cultivation producing vegetables and fruits for sale to the nonfarming population. In Kucha, a fairly large oasis, fertilizer is generously applied within a radius of five miles from the district city. Within this zone there is one orchard of seventy-five acres which produces apricots as a cash crop for the market. Beyond this inner zone, the amount of fertilizer applied decreases rapidly, and two other zones may be distinguished. In the near one rice, corn, wheat, and cotton may be grown and wheat and corn, when manured, may be grown in rotation. In the third zone practically no fertilizer is used and here hardier crops such as millet, kaoliang (sorghum millet), and potatoes are planted, and fallowing must be practiced. When some fields must lie fallow, the small farm is at a great disad- [435] vantage in competition with the large farm. In this zone the cost of transport to market rises rapidly, and the price of land falls.

361 Beyond this third zone there is usually no water and the desert 233 begins abruptly. Sometimes on the fringe of an oasis, however, 312 there is a thin zone of grazing. Sheep are pastured here, and at the edges of roads, and in land within the oasis too rough for irrigation. Sheep are also pastured in a few places in the scrubby land where dying rivers reach the desert. The shepherds are the Dulani, a people of uncertain but probably nomad origin who live a gypsy-like life and keep apart from the settled Uighurs of the Tarim oases. Both Uighurs and Dulanis breed a sheep which is better for mutton than for wool.

433 Most food is consumed in the oasis where it is grown, though 262 some oases have a surplus for sale while others are not self-suffi- 146 cient. The diet of an Uighur villager is largely cereals. The consumption of sugar, fats, and meat is meager except among the wealthy, and there is practically no milk in the diet. The daily calory intake of an adult villager, as estimated in Khargalik in 1943, was 1215 calories of wheat flour, 1215 of corn flour, and 150 of mutton.

2: Norins S-4 (1939-1941) 1944 AI1 Sinkiang AI1

241 of a considerably varied cultivation. Samuel Chao, an authority on Northwest China, says, in fact, that her natural riches have made Sinkiang the third largest agricultural producing center of that broad region.

241 312 In the absence of figures showing increase in cultivated acreage under Sheng's administration, statements as to the improvement of native irrigation facilities are useful—for most of Sinkiang's agricultural development has for centuries been dependent on widespread use of just such irrigation. Under Sheng's first three-year plan twenty-two new irrigation conduits were opened and forty-two old ones repaired. Nine river-deepening projects, two artificial basins for watering of cattle, and the repair and deepening of the locally famous thirty-five mile Hui-yüan irrigation conduit were some of the other tasks undertaken in the same period. By 1940 it was estimated that there were 944 main irrigation canals and 2,335 branch canals in the province. One Chinese writer enthusiastically claims that the cultivable land reclaimed as a result of the improvements mentioned amounts to approximately seventy thousand acres. A more recent survey, available in November, 1942, states that more than 3,000 miles of water conduits and wells have been added to, or repaired in, the provincial irrigation system, making available more than 150,000 acres of cultivable land. While these figures leave an uncertainty about the exact amount of land that actually is under cultivation today in Sinkiang, they do point to considerable emphasis on the problem of land reclamation. The work, moreover, undoubtedly has raised the 1918 base minimum of some 500,000 acres of cultivated land considerably in the direction of —if not beyond—the possible 1918 maximum of roughly 1,000,000 acres.

241 Ha-mi, Tihwa, Sui-lai (Manas), and Sui-ting in the north and Turfan, Aqsu, Kashgar, and Khotan in the south have all been famous in one way or another for their agricultural or related produce. Tu Chung-yüan claims that agricultural products of Sinkiang are "far superior to those of the interior in body, beauty, ripeness, and size." He then continues, "If one were to plant a Ha-mi melon seed elsewhere in China, the first year's crop would bring a change in the sweetness and beauty of the fruit. By the second year the melons would be un-

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

and it will grow into a full-sized tree; the other is its tendency to vertical rather than horizontal cleavage. The result of the first is that wherever water can be brought (the climate of the plains is almost rainless, but water from the encircling mountains is plentiful for irrigation) the land is closely cultivated, willows and poplars line every water-channel and the farmsteads are buried in foliage. The second peculiarity results in the landscape being broken up most picturesquely in the neighbourhood of the many rivers by perpendicular cliffs or river-bluffs, seldom more than thirty or forty feet high, but bold of outline and of a rich yellowish hue, with farmsteads perched on top of them and mills nestling below, trees and crops growing to their very edge and greenery in every cranny.

The whole aspect of the better-watered parts of the oases is one of immemorial peace and contentment and of a civilization, such as it is, that has persisted unchanged for centuries. Nowhere could be found a more striking illustration of the strength and permanence of a rural population with its roots deep in the soil, especially when that soil can only be made productive by means of an elaborate system of irrigation. Politically, Kashgaria has had as stormy a history as any country in the world. During the last 2,000 years or a little more the Chinese have conquered it five times, and four times they have been evicted from it. The total period of their occupations up to date only amounts to about 425 years; during the remainder of the time Kashgaria has been the prey of one conquering people after another. Huns, Yüehchih or Indo-Scythians, Hephthalites or White Huns, Tibetans, Uigur Turks, Qara Khitai,[1] Mongols under Chingiz Khan, Dzungar Mongols and Turkis from the Transcaspian Khanates have all won and lost it in turn. Apart from these more cataclysmic changes, civil war has at various periods raged between the larger towns, Kashgar, Yarkand, Khotan and Aqsu. Yet down through the ages generation after generation of peasants have yearly tapped the summer floods from the mountains and have raised their crops of wheat and barley, rice and millet, cotton and maize and melons, while wave after wave of conquest has rolled over their head. Whenever any conqueror or tyrant has interfered overmuch with the cultivator, his greed has been his downfall. A striking recent example of this

[1] The twelfth-century conquerors who gave their name to "Cathay." Stein, "Journal of the Royal Geographical Society," June, 1925, p. 495.

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

very nearly caused a stampede of the entire cavalcade. A little further on we rounded a corner and came upon the real Sinkiang Army, cavalry and infantry, whose buglers set up a wild fanfare; uniformed aides-de-camp and black-coated Chinese secretaries met us bowing with their masters' red-paper visiting cards and next moment, dismounted, we found ourselves shaking the limp unaccustomed hands of the local hierarchy. These included the Magistrate of Yarkand, an alert and intelligent Cantonese; the Commandant of the Garrison, an ancient Yunnanese General in a cream-coloured silk shirt, with a head, as D. puts it, positively waggley with age; a speechless Captain in a tightly-buttoned greatcoat, and one or two Assistant Magistrates in skull-caps and Chinese civil dress.

(From a letter of D.'s dated 29th October, 1922.)

This morning (Sunday) I went to the Mission Church and came back through the bazaars. Some of the types I saw were extraordinary—strange wild-looking men in square fur caps and ragged clothes, with Mongol faces and the eyes of people without minds! Shrivelled old men and women, mere heaps of rags, crawling about the streets. Fat Begs, picturesquely dressed in black tunics and trousers and long boots, with wonderful striped coats over all. Veiled visions with little fur-edged velvet caps, old Chinese men with brown walnut faces, and terrific Chinese babies like small lumps of dough. What it will be like on market day I can't imagine, for I am told most extraordinary types come in from the deserts and marshes round Yarkand.

Yarkand, 5th November, 1922.

Yarkand is a much larger but less effectively-situated city than Kashgar. It is all on the flat, and there is no river across which, as at Kashgar, you can obtain a *coup d'œil* of the town and its walls. All you can see from outside at any one point is a section of the massive ramparts, in good repair round the New City but somewhat dilapidated round the adjacent old town; suburbs with long straggling bazaars further confuse the view. Once inside the walls, however, you are struck by the size and spaciousness of the long roofed bazaars, far better-built than those of Kashgar, and by the quaint "bits" and picturesque corners at every turn, of which glimpses are caught through every second doorway; courtyards of humble dwellings, inns, corners by ponds with tumbledown wooden houses and weeping willows drooping over them, eating-shops and groceries, smithies and old-clothes shops and carpenter's shops, and everywhere masses of picturesquely-garbed people. The most remarkable sights in the streets are the beggars, positive miracles of grotesque raggedness and boniness. But Yarkand, though delightful at this season, must be hot and unhealthy from June to October; there are many flies and mosquitoes about still, and malaria (not a bad kind, however) is rife. The universal cretinism is distressing; every fourth person one meets has goitre. This is undoubtedly due to the bad water drunk by the people; although two large rivers come out of the mountains quite close to the city, the Yarkand and the Tiznaf, no attempt has ever been made to bring their waters regularly to the

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

town by canals, and the water-supply of Yarkand consists solely of the scores of semi-stagnant ponds dotted all over the city. These are filled up but once a year when the Yarkand river is in flood and they can be replenished with the overflow from the irrigated fields outside the walls; they do not look as if they were ever cleaned out from century to century, though I suppose they must be occasionally.

The countryside round Yarkand is delightful, though perfectly flat and not broken up by streams with high loess bluffs as in the Kashgar oasis. The farmsteads, mills, wayside shrines and village bazaars are built almost entirely of wood, but the houses and barns are not flimsy card-house affairs like their counterparts in the Kashmir Valley; they are solid, comfortable-looking and satisfactory, like old English farmsteads. Everything is old, long-established, peaceful and prosperous; the well-timbered countryside with its broad fields, brimming canals and farms teeming with cattle, horses, sheep, goats, donkeys, poultry and rosy-cheeked children suggests a kind of Asiatic Holland.

Yarkand is if possible even more "Central Asian" and remote than Kashgar, owing to its greater distance from the Russian frontier and therefore from Europe and "civilization," and an even more astonishing diversity of races is represented in the streets, including the following: Andijanis (Mussulman Russian subjects from Ferghana); Badakhshis (from Afghan Badakhshan); Baltis (from the southern valleys of the Karakoram); Bokharans; Chinese; Chitralis; Dulanis (aboriginals from the Yarkand River valley); Gilgitis (mostly freed slaves or their children); Kanjutis (men of Hunza and Nagar); Kashmiris; Kirghiz; Ladakhis (from Little Tibet); Pathans, Afghan and British; Punjabi Hindus; Punjabi Mussulmans; Shighnis (from Roshan and Shighnan, Upper Oxus); Sindhis (moneylenders from Shikarpur); Tajiks (from the Chinese Pamirs); Tungans (Chinese Muhammadans from N. Sinkiang and Kansu); Turkis; Wakhis (from Wakhan and the valleys of the Hindu Kush).

Of these the Turkis form the great bulk of the population; the Chinese are comparatively few, and are confined to the officials and their hangers-on, a few Tientsin merchants and some petty shopkeepers; the Tungans are mostly traders; Kirghiz and Tajiks come in from the mountains and Dulanis from the down-river marshes. All these are Chinese nationals; the rest are "travellers" or "men from over the mountains" (*dawan-āshti*) *i.e.*, foreigners, of whom the Andijani and Bokharan Russian subjects are represented *vis-à-vis* the Chinese by their own headman or *Aqsaqal*, while the Badakhshis, Baltis, Chitralis, Gilgitis, Kanjutis, Kashmiris, Ladakhis, Pathans, Punjabi Hindus and Muhammadans, and Sindhis look to the British Aqsaqal and his *naibs* or assistants for each community.

Posgam, 11th November, 1922.

We have at last escaped from Yarkand and are bound for the ancient Kingdom of Khotan. Our caravan now consists of the tarantass and four Chinese carts drawn by two horses each (except on marches where the road is heavy with sand, when one or more extra horses are engaged for each cart at a shilling a day each). The hire fixed for each two-horse cart was 20 Kashgar taels or about £3 for the journey to Khotan. The tarantass with our own horses in it we

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

When some of the crowd caught sight of our small party trotting quietly over the fields, to our surprise they turned and ran like rabbits; the alarm spread, and the next moment the whole crowd was scattering helter-skelter in all directions. Only a few fierce-looking dogs remained to receive us. Qari quickly realized what the matter was and informed us that we had broken up a dog-fighting meet. I sent Hafiz after the fugitives to tell them not to be frightened of us; gradually they trickled back and soon we were surrounded by a hundred or so sheepish-looking villagers, some of whom led heavily-built crop-eared dogs of the chow type. I thought at first that dog-fighting was forbidden, and that the sportsmen of Domoko had taken us for the arm of the law; but Qari assured me that this was not the case, and that the bolting of the crowd was due to nothing but pure funk. They saw five strangers riding towards them, and their instinct was to run. No wonder a handful of Chinese with a paper army keep perfect order throughout Kashgaria!

I was particularly anxious while at Keriya to obtain a view and if possible a telepanorama of the western end of the Altun Tagh or Mountains of Gold, a range belonging to the Kunlun system and extending from the south-east of Keriya 800 miles in a north-easterly direction. We were indeed vouchsafed a glimpse of the object of our desires, but a tantalizingly premature and inadequate one. In the late afternoon of the 30th November, on the road between Domoko and Qarakir Langar, we caught our breaths at the distant vision of two mighty peaks of the Mountains of Gold, both over 21,000 feet high, 65 miles away over the desert; but the next morning the fatal dust-haze which is far worse here even than at Kashgar had blotted them out, and we did not see them again.

A peculiarity of the Keriya district outside the cultivated area is the coarse grass which covers the country for hundreds of square miles. As there is practically no rainfall at all in this part of the world, these savannahs must be due to comparatively plentiful subsoil water percolating from the distant Kunlun. Chira and Gulakhma and other oases on the road to Keriya owe their existence to this water, which appears in frequent springs after an underground passage of forty or fifty miles beneath the belt of absolutely barren desert between the main road and the villages at the foot of the Kunlun.

There is an end-of-the-world feeling about Keriya which

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

for dinner I did not finally escape from Karghalik till 3 p.m. I was then faced with a 41-mile ride to Yarkand, including all the ceremonies involved in arriving at and departing from the town of Posgam as well as an hour or two's work with the Amban of that district. Attended only by Hafiz on his sturdy Kalmuck pony I called upon the black horse to rise to the occasion and galloped practically the whole way to Posgam (24 miles) in 2½ hours. At the British Subjects' tea-drinking, a mile short of Posgam, the poor old Aqsaqal and his friends had been waiting for me ever since noon, so I had to give them a good innings and hear all they had to say about their various lawsuits and other business. It was pitch-dark when I mounted again and trotted on into Posgam, and in view of this and of the gallop he had just done the black horse may perhaps be forgiven for coming down on a perfectly smooth bit of road and throwing me on my left shoulder rather heavily. The Amban, I was thankful to find, had abandoned the idea of a road-side reception hours before, and awaited me in his yamen; he was more considerate than my Manchu friend of Karghalik, and compliments, small talk, business and farewells were all successfully packed into an hour.

By seven o'clock I was again on the road, riding my other horse which had been waiting for me all day at Posgam. I had hoped to be able to trot and canter all the way into Yarkand (17 miles), but my shoulder, which had been wrenched by my fall, was somewhat painful and would not stand jogging, so I had to proceed the whole way at a walk. A hospitable British subject called Haji Turab Shah was ready for me at his house, a mile out of Posgam, with a good square meal for which I was extremely thankful. Crossing the Yarkand River a mile beyond this was strange experience. I was surprised to find that there was considerably more water than when we had forded this river early in November, and that some of the ferry-boats which had then been laid by were now again in use. I was told that this was due to the fact that in November the water of the river can still be drawn off for irrigation, and is used for flooding the fields which have been sown for next spring's crop; later, when the hard frost comes to the plains, the sluices of the canals become blocked with ice and it is no longer possible to draw off the waters of the river. I was escorted by the Aqsaqal of Posgam and two of his men, one of my own orderlies, and four of the Amban of Posgam's runners, who dangled at the end of poles monstrous

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

like they had never seen before. They were particularly impressed by the gold in my teeth; they asked D. about it, evidently thinking it was a kind of ornament. They also asked her what my other wife was like, and whether she never travelled. D. explained that in the West men had only one wife at a time, whereupon they exclaimed "Aren't you lonely?"

In this country nomadic and settled Kirghiz are mixed, not separated by an uninhabited belt and a distinct difference in level, as in the mountains to the south of the Kashgarian plain. Our next camp was at a scattered village of crofts called Pichan; behind it, a line of the curious domed tombs of Kirghiz-land cresting a bluff showed that the settlement was an old one. We made great friends with the enormously fat and jovial Beg of the place, a regular Falstaff. He told us that the little community had been almost ruined three years before, when the disturbances in Semirechia following the introduction of the Soviet régime had resulted in the migration of thousands of families, Sarts and Kirghiz, to Chinese territory. "They brought huge flocks of sheep and goats with them," he said, "which ate up all the grass, so that there was none for the Pichan flocks and they died. Our stock was thus destroyed, and now we can't work it up again because we have no surplus for breeding. But the *Khitai* (Chinese) have not reduced our cattle tax, fixed many years ago at 15 dachins (1½*d.*) per head—they still take fifty taels a year off us, though there are no sheep. But we make no complaint, because though there is a good deal of cultivation we pay no land tax. If we attracted the Amban's attention he might find out about the cultivation, and then we would have to pay both land and cattle tax."

The fat Beg found a congenial spirit in the cheerful Hafiz, with whom he "swapped lies" uproariously far into the night. Next morning as we marched out of Pichan I happened to look round, and there were Hafiz and the Beg riding along arm-in-arm, with broad grins on their faces, each wearing the other's hat. It was one of the funniest sights I have ever seen, Hafiz in the huge black lambskin Kirghiz cap and the Beg with Hafiz' *dopa* perched like a Glengarry on the top of his vast head and face.

There was plenty of good water at Pichan, but at our next halting-place twenty miles farther up among the bare hills at Qizil Eshma, we very nearly had to go without. A family of Kirghiz were encamped at the mouth of a small side-glen apparently just as dry as the main valley. The servants I

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

of Gold" which form the northern rim of the Tibetan plateau. Our first objective was the hill-village of Polu, three short marches south of Keriya; thence we proposed to visit the oases along the foot of the Qaranghu Tagh or Mountains of Darkness, that wildest and most inaccessible central section of the Kunlun which rises in the great massif of K 5 to a height of 23,890 feet. The trip proved somewhat disappointing, for the hateful dust-haze persisted and we saw little along the road beyond our immediate surroundings. Only once, for a short hour or two, did the veil lift. Nevertheless the journey was interesting in the extreme and on the whole enjoyable. Very few explorers had visited this secluded bay beneath the northern ramparts of Tibet, and the region may certainly be classed among the remotest and least-known inhabited corners of High Asia, outside Tibet itself.

The village of Boghaz Langar, at which the last of the above extracts was written, is the southernmost village of the main oasis of Keriya and lies at a height of 5,150 feet above the sea, or 700 feet higher than the town. Close by we visited the famous shrines of Imam Ghazz 'Ali, one of the heroes of local Muhammadan tradition, and of a lady known as Bu Hanifa. The place is remarkable for its plane-trees of immense age and bulk, veritable mountains of ancient wood, gnarled and monstrous like boulders in a torrent-bed. Next day we marched up the left bank of the Keriya River, passing one or two small isolated oases, and camped at a point 6,500 feet above the sea where the stream cuts through the foothills in an almost straight canyon 300 or 400 feet deep. It was a curious camp; though our tents were pitched fifty yards from the edge, the river could be neither seen nor heard and we seemed to be in the middle of a bare rolling moor of sand and scrub. Every drop of water for man and beast had to be brought by hand in buckets and gourds up a terrifying cliff-track known only to the guides we had brought with us. Next morning the haze was thicker than ever and we could see nothing of the massifs of the Altun Tagh, 21,000 feet high, which we knew impended over us at a distance of scarcely 25 miles. For hours we toiled up sandy tracks, new reaches and abysses of the river-gorge coming dimly into view at each corner. I was impressed by the quantities of drift-sand everywhere; even at this height the whole hill-side seemed to be silted up with sand blown from the distant Takla Makan, in marked contrast with the approaches to the Kashgar Range which we

3: Skrine G-3 (1922-1924) 1926 All Sinkiang All

of the Kunlun into the "Begship of the Three Hundred Hill Families," which is under the jurisdiction of the Amban of Chira. The people of Polu complain of this arrangement, for Chira is twice as far from them as Keriya. They told me however, that whereas they have always been assessed at ten families only, they number about eighty, so that their cultivation is taxed very lightly.[1] They are industrious cultivators, raising crops of barley, millet and lucerne on every available yard; but the dryness of this part of Asia is such that even here, right under snowy mountains 21,000 feet high, crops have to be carefully irrigated. There are two methods of irrigation in use; where the slope is slight, the fields are terraced in the usual manner; where it is steeper, the entire surface is covered with a key-pattern of channels about six inches deep, down which the water trickles over the whole field, a most laborious business. The chief industry, however, is stock-raising; though they look barren enough, the uplands in this neighbourhood grow excellent grass, owing probably to the fertility of the aerially-deposited loess which is found at the very highest elevations and gives a slightly dirty tinge even to the eternal snow. An excellent type of hill-pony, shaggy but better-looking and with finer hair than the Kalmuck ponies, is found here together with a black and very woolly breed of donkey; I bought one of the former for 32 taels (£4 5s.) and it turned out one of the best hill-ponies I have ever ridden. "Polu pony" as we always called him, besides being strong and willing, was a remarkably intelligent little animal and took in everything that was going on. On the long bare plateaux of Poma Qir and Chata Qir west of Polu we saw herds of yaks and camels as well as the ubiquitous sheep and goats.

An industry which would be of greater importance locally than it is, if the Chinese did not strictly control it and limit the output, is gold-washing. There is no doubt that gold exists in large quantities throughout the length, not only of the Altun Tagh but of the whole Kunlun system. I heard of gold-washing high up among the almost inaccessible gorges of the Upper Yarkand River; Stein mentions it at Pisha in the Qaranghu Tagh (Central Kunlun),[2] and speaks feelingly of

[1] This agrees roughly with what Stein heard at Chakar ("Serindia," pp. 1320–21); that the number of families in the Begship was assessed at 221, but amounted in 1907 to 1,802.

[2] "Ruins of Desert Cathay," Vol. II, p. 210.

S N 175 towards Russia, Turkey, and England. The cultural cohesion 631 created by Islam that connects Chinese Turkestan with Russian 668 Turkestan and other neighboring Muslim countries, and that 178 created by Buddhism that connects Mongolia with Tibet 619 through Chinghai and small areas of Sinkiang, marked the 648 four provinces of Sinkiang, Chinhai, Kansu, and to a small degree, Shensi, as one single area which represents one administrative unit.

S 563 The Eastern Turks:

241 The main pattern of social life of the Eastern Turks is based primarily on "Oasis Agriculture" with its irrigational complex. All agriculture in this area is made possible through S 563 the organized use of water. The family organization among the Eastern Turks is therefore an extended one, since a certain 596 level of productivity can only be reached through collective labor (upkeep of irrigational systems and dikes). One reason S [312] the Eastern Turks developed the extended family pattern is that the family recieves water in proportion to the amount [241] of labor its members put into the upkeep of irrigational systems and canals; the greater the family, the more water is therefore provided for their land.

The Internal structure of the family system is not based S upon clan rules. Eastern Turkic communities are governed [622] by a body of leaders, selected from the community itself [634] whereas the larger governmental districts are headed by S Chinese officials or, at present, by Chinese Communists. 563 A secondary aspect of Eastern Turkic social life is formed S [441] by trade and handicrafts. Merchants and craftsmen form "guilds" which in turn influence the social life of the community.

S K Kirghiz and Kazakhs:

563 Kirghiz and Kazakh society is clan-based. (The definition 614 of the notion of "clan" is explained in the chapter about the S K Social Structure.) All family relationships are deeply rooted 563 in the clan system. The main pattern of social life among 233 these two tribes is created by their nomadic way of life, whose 36 most essential economic activity is cattle breeding. The trans- [177] ition to a semi-sedentary life is now under way. The Commun- [668] ists insist that the Kirghiz and Kazakhs occupy a permanent winter camp site, since this facilitates better political control over the tribes. The choice of the summer camp site S K still remains more or less in the hands of the tribes. Kirghiz [622] and Kazakhs are ruled by "biks," or "manaps" (elders) S N responsible to the Chinese officials.

563 The Mongols: general remarks.

[233] Mongol social life is based on nomadic pastoralism. The [594] basic unit is the nuclear family. A group of patrilineally

433 increase of 11.5 percent in the combined areas of Inner Mongolian, Sinkiang, and T'ung Autonomous Area in Kweichow. (KM. October 4, 1955). Supposing the increase in Sinkiang was ten percent which owing to the heavy natural disasters in 1954 is probably too high an estimate, it would mean 1.76 million tons of food stuffs in 1954, i.e. about 430 catties per head. In this context, a report which claimed that food production is 747 catty per head was published (KM September 15, 1955).

311 312 185 Soil conservation is just as important as water conservation in land reclamation in arid and semi-arid areas. Human survival in Sinkiang for over 2,000 years has been involved in a continual fight against the aridity of the climate and the central Asiatic agricultural alkali, salt-saturated soil. Every year's floods convert even hitherto fertile lands into alkali, sterile soil. There are "Kariz" wells which are connected by underground canals, reaching a total length of 2,500 km. between Hami and Turfan only. This is evidently a means of combating the impermeability of the soil, which makes surface irrigation harmful.

503 653 According to 1954 Government Reports, 50,000 long or short canals with a total length of 30,000 km. have been repaired by the Army and by the people. (PD. August 28, 1955). In an October 1955 report: 1,600 canals are under repair and also 1,500 wells have been added (PD. October 21, 1955).

311 312 185 Large scale irrigation and water conservancy work are at present in the state of planning only: survey works are going on at the Manas and Urumchi Rivers and at the Turfan Basin for the future building of larger irrigation works and hydraulic power stations. (PD. October 31, 1955). But to fight against alkali soil will remain a continuous problem in land reclamation in Sinkiang as well as elsewhere in the arid and semi-arid Northwest of China. It was reported in 1955 that 300,000 mou of alkali land were reclaimed around Chigalik Lake in the northeast Hami area, and southwest Aksu. Rice has been planted in the former too, and cotton in the latter area. How long will the newly reclaimed land reclaim productive under the ever-increasing accumulation of alkali in the soil is still a problem which remains to be solved.

433 648 167 466 2. Soldier Colonization

Although no data concerning the exact number of Chinese soldiers in Sinkiang are available, the figures must be enormous - judged by the gigantic work undertaken by Chinese soldiers under the name of "Production and Construction Troops of the Sinkiang Military Area." One million one hundred thousand mou (166,000 acres) of the three million mou extended arable land during the period 1949-55 are due to the labor of the Army

1: Washington S-4 (no date) 1956 AF13 Northwest China AF13
Sinkiang AI1

S
433 Under land reform in Sinkiang, on the average, 2.5 mou were
S distributed per person. (PD. August 28, 1954). According to
[161] the 1953 census - Sinkiang has a population of 4,873,608.
That means the average acreage per head would about 4.5
mou instead of 2.5. Taking this as a basis, the estimated
110,000,000 mou of possibly extended land for cultivation
can accommodate nearly another fifty million people; that
S will be ten times larger than its present population.
N Land reclamation by the development of irrigation in
311 Chinghai province and former Ninghsia along the Kansu
312 Corridor is not as promising as in Sinkiang and the mid-
185 Yellow River drainage area of Shensi and Kansu, because
of the limited amount of snow over the nearby high mountains.
Another three million people (twice its present population)
would be the most that Chinahai could support by land reclama-
tion for agriculture and pastoral development.

Summing up all the possibilities, an approximate total of another fifty-five million people which is nearly one and a half times the amount of its present total population can be supported at the present standard of living by the development of irrigation in land reclamation in the whole Northwest Region
N of China. According to the 1953 Census, the Northwest has
[161] a total population of 35,359,525 with an annual natural increase at a rate of twenty per thousand as the Chinese Communists claim. That means an addition of more than 700,000 people are added by natural increase each year. In approximately seventy years, another fifty-five million people will be added to its present population by natural increase only. But in view of an annual natural increase of nearly twelve million for the whole population of China, the Northwest can be used as a reservoir for the nation for a period of only four years. Therefore the Northwest is extremely limited as a population outlet for China. And the conversion of 110 million mou into arable land in Sinkiang is itself a gigantic task to fulfill; and conservancy of soil and water can hardly cope with the natural increase in population. Land reclamation in the Northwest should be regarded as a means of improving the living standards of the people rather than as an outlet for any further increase of the population.

S 563 178 [31] individual and the community. Natural resources to not seem to be of prime importance in Sinkiang. However, their exploitation through free or forced labor will further break down Uighur kinship ties and thereby alter the social structure. In recent S [464] times large numbers of non-Uighur laborers have been introduced into the area, further augmenting alien cultural elements.

S 563 438 622 Uighurs participating in small-scale home industries and handicrafts are organized under the leadership of a Chong-usta. Unlike the merchant's "guild" aqsaqal, he is not a public official.

S 563 554 [631] [647] [692] Under the Manchu system the Bäks (communal leaders) were classed in five degrees of rank, ranging from the third to the seventh degree of the Chinese official scale. 1. Ak'im Bäk-local governor; 2. Ishkhan Bäk -Assistant Governor; 3. Shang Bäk - Collector of Revenue; 4. Katsanatch'i Bäk - same as above; 5. 'Hatze Bäk - Judge; 6. Mirabu Bäk - Superintendent of Agriculture.

S [312] As discussed previously, the Mirabu Bäk was also the official having authority over water rights and water distribution. In practice the Manchu Amban, highest Manchu official in a given area, chose the Ak'im Bäk who, in turn, chose his own subordinates.

S 563 241 554 Farm units were organized as follows: Ten such units were lead by an On-bashi, fifty by an Illik-bashi, one hundred by an Yüz-bashi. The duties of the Bäks and Yüz-bashis mainly consisted of keeping and collecting registers and taxes. This governmental organization was abolished officially by the Chinese Revolution in 1911. However, traces of this structure are still found today.

S 563 668 177 The whole Uighur social structure certainly will undergo far-reaching changes under the Communist government. However, at this time only hypotheses about these changes can be advanced. As new cultural and political structures are imposed on the society, kinship ties will be further loosened. The Uighur communisty and its structure will take on new characteristics, as old institutions disappear and new ones are introduced. Except, perhaps, for the nuclear family, social groupings will be brought more and more into accordance with the new ideals of the society.

N B. The Sedentary Tibetans

N *563 [592] [361] Much that has been said about the nomadic Tibetans holds equally true for their sedentary counterparts. Again the basic unit is the group of families living together. In the sedentary community, the village may be composed of from a dozen to seventy, eighty or even more houses arranged adjacent to each other. The roofs of the normally two-storied buildings N [342] are close enough to form a pathway, and are used as such.

464 701 708 668 177 241 An April 18, 1955, despatch reports: "The People's Liberation Army in Sinkiang has started spring sowing on the plains north and south of the T'ien-shan Mountains. Crops already sown include spring wheat, oil-bearing plants and long staple cotton. The army men are experimenting with the cultivation of long staple cotton in the Turfan Basin, where favorable conditions exist. This year the PLA farming units will cultivate over 66,000 hectares, or thirteen percent more than last year. More than half of the land will be ploughed by tractors. Adequate supplies of chemical fertilizer and insecticides are on hand."

708 653 312 668 177 503 464 A June 3, 1955, despatch reports: "The largest reservoir in Sinkiang is being enlarged this month by engineering units of the People's Liberation Army stationed in Sinkiang. When completed, the Men-chin reservoir, north of Urumchi, will have a storage capacity of sixty million cubic meters of water which can be used for irrigation."

An October 31, 1955 despatch reports: "A leading part has been played by the People's Liberation Army in irrigation works in Sinkiang. With their help, the peasants have constructed nine reservoirs, repaired irrigation canals and ditches, totalling 30,000 kilometers in length, built hundreds of new canals and added more subterranean waterways, a form of irrigation traditionally used in the region. In addition, the People's Liberation Army units have built and expanded works capable of irrigating 200,000 hectares, mostly farmed by local peasants. The army men also reclaimed over 73,000 hectares of wasteland and set up twenty-nine mechanized state farms."

708 241 668 177 464 [248] A November 3, 1955, despatch reports: "Manass Basin Agricultural Production Construction Troops of Sinkiang Military District of the People's Liberation Army plan to grow cotton in an area of 202,000 mou next year, one hundred forty-six percent larger than this year. These troops are now actively undertaking the preparatory works."

A December 24, 1955, despatch reports: "A new mechanized farm has been built in the Manass Basin by PLA. It has some 10,000 hectares of well irrigated farmland, part of which has already been sown in winter wheat. They plan to supply the state with nine thousand tons of grain and twenty-eight hundred tons of cotton next year."

701 708 464 668 177 000 The constitution of the so-called People's Liberation Army in Sinkiang has not been disclosed. But to use the regular army as a labor force in peace time is, to say the least, forced labor in disguise. (See section Forced Labor of General Handbook).

III. Conscript Labor

/The Chinese/

N *563 164 364 S 563 164 364 by half a million people - even if they live mainly on rice - is bound to be formidable. No sewage system of any kind exists; its place is taken by an old established guild of public servants who can be seen every morning in large numbers making their way through the streets. The casks or buckets which dangle from the bamboo poles across their shoulders smell no better than you would expect them to. They are always full to the brim and their contents, which are eventually sold to truck gardens on the outskirts of the city, are a constant threat to the legs of the passers-by.... The buckets in which they carry their night soil down the hill are used, after being briskly rinsed, to carry their water up."

S N [415] [312]

Besides producing a very unpleasant picture, this description brings out the very serious problems connected with the lack of a proper sewage system. It also points out the many possibilities for spreading contagious diseases and infections.

N *563 164 [165] [844] S 563 164 [165] [844] Tuberculosis is quite prevalent in China. Epidemic diseases are common also, such as typhoid and paratyphoid fevers, cholera and smallpox. Malaria and the two kinds of dysenteries, amoebic and bacillary also are present. Death at childbirth, both of infants and mothers, is quite high, because of the lack of adequate sanitary precautions during childbirth and the practices of the midwives, who do nothing to prevent infection of both mother and child.

S N [165] Winfield in his book states that "seventy-five per cent of all deaths in China are due to preventable diseases that are under control in the West; there are about 15 million deaths each year in China, of which 11,750,000 are due to preventable diseases." (China: The Land and the People, p. 111).

D. Medical Personnel

N 759 *563 S 759 563 The lack of Western-trained doctors, nurses, pharmacists and dentists in the Northwest is an extremely serious problem. Most people, because of the shortage of medical personnel, still go to the local herb-doctors. (A full description of the traditional Chinese science of medicine is given in the General Handbook). In many less acute cases, people either neglect to do anything or attempt to treat themselves by unscientific methods.

E. Efforts of the Government

S N 744 The Nationalist Government was aware of the serious shortage of medical personnel and equipment in all of China, including the Northwest. Two national organizations were established in the 1930's to deal with these problems: The Department of Public Health under the Ministry of the Interior, which had a Northwestern Office for the Prevention of Epidemics, and the National Health Department under the National Economic Council, which also had an office in the Northwest.

I: Washington S-4 (no date) 1956 AF13 Northwest China AF13
Sinkiang AI1

AGRICULTURE AND LIVESTOCK

I. The Pre-Communist Period

A. Introduction

Since the Chinese Communist Party came to power, its interest in the Northwest, as an area for economic development, has increased. The Communists feel that this vast region of 1,232,074 square miles, which is roughly one-third of the total area of China (3,657,765 square miles), offers unlimited opportunities for economic development. They claim that vast mineral deposits exist, that agriculture can be greatly expanded, and that the Northwest might serve as an outlet for some of the heavily populated sections of China Proper. Of China's total population of 582,605,000 million people, only 35,360,000 reside in the Northwest (Shensi: 15,881,000; Kansu and Ninghsia: 12,928,000; Chinghai: 1,677,000; and Sinkiang: 6,874,000). These figures are from the 1953 census report.

Since 1949, the Communists have begun to develop this area as rapidly as their limited capital and technological resources permit. Though the development of agriculture is only one aspect of their program, it is the foundation on which Communist planning in the Northwest rests.

B. Sinkiang

1. The geographical setting

Sinkiang is enclosed on the north, south, and west by mighty mountain masses and on the eastern side by wide stretches of barren plateau and is bisected by the lofty Tienshan, or Heavenly Mountains, which rise to heights of 23,000 feet and extend across the province from west to east, dividing the region into two unequal parts. The southern area, two-thirds of the whole, is the Tarim Basin, the land of oases and deserts. The northern part is Dsungaria, traditionally the land of the nomads. The total area of the province is about 600,000 square miles, or twice the size of Texas.

In the Tarim Basin, named from the east flowing river of the same name, is one of the world's driest deserts, the Takla Makan, which at its lowest point is actually below sea level. Vegetation is almost non-existent, so that nomadism is impossible except on a few alluvial fans where water lies near enough to the surface to support grass. The average rainfall is less than four inches a year. Water comes from the mountains which fringe the desert on the north, west and south. From the melting upland snows and glaciers, rivers cut their way down to the central oval desert. Where each river leaves the foothills, men dig canals to spread the water out in a fan, forming an oasis, so that the edige of the desert along the foot of the mountains is dotted by a series of oases.

000 oases. A trade road, looping around the desert, links the oases
133 like beads on a string, forming a U with the open end toward the
491 east.

131 Dsungaria is in northern Sinkiang, between the Tienshan and
the Altai mountains which mark the frontier between Sinkiang and
132 Western Mongolia. Precipitation here is slightly higher, and
137 steppe vegetation makes pastoralism possible. Northern Dsungaria
233 was the avenue of migration followed by the Mongols in their west-
(489) ward conquests.

2. Pastoral nomadism

233 In 1943, there were 11,720,000 sheep and goats in Sinkiang, 1,550,000 cattle, 870,000 horses, and 90,000 camels, totalling 14,230,000. In 1947 the province reported 12,266,000 sheep and goats, 1,659,000 cattle, 1,027,000 horses, and 85,000 camels, a total of 15,037,000. The total has remained somewhat constant over a period of time, probably due to the fact that pasture land is poor and care of the herds inadequate. Most of the livestock are in Dsungaria, pastured in the steppe land by nomad Kazakhs or Mongols. There are many variations to the techniques of herding animals since cattle, horses, and camels each prosper best on different kinds of pasture. The problem is to devise the best combinations of animals to be maintained and to select the appropriate pasture, decide how long to remain on a pasture, when to move, and how.

3. Oasis agriculture

241 There are two kinds of oases in Sinkiang: those in the south,
312 which are sharply isolated from each other by desert stretches and the oases of the north, which have fringes of land in which rainfall farming prevails. When irrigation was introduced, it seems to have been practiced first on the lower courses of the rivers, where the soil was soft and the engineering problems required only the digging of simple ditches from the banks of the streams. In the course of time, as knowledge of engineering developed, the tendency was for the oasis to move upstream toward the boulder slopes at the edge of the foothills, but not back into the gorges where the problems were far too great.

Oasis engineering is extremely simple. The basic pattern is a main canal from the river, branching into smaller canals which branch in turn into ditches which deliver water to the fields, all arranged so that water flows by gravity from level to level, without the pumping or bailing devices which are widely used in China and in Sovict Turkestan to lift water from lower to higher levels.

[133] In volume of discharge, the rivers of the Tarim system are far behind the two great rivers of Soviet Inner Asia, the Syr Darya and the Amu Darya. The total discharge of all streams in Sinkiang is about 3400 cubic meters per second, of which about seventy per cent is in the Tarim Basin. In irrigation engineering

241 it is calculated that a discharge of one cubic meter per second
• 312 should irrigate over 6,000 acres, whereas in Sinkiang the figure is estimated at 2,530 acres. There is a lack of drainage to provide for washing out the salt deposited by irrigation and of storage lakes and reservoirs and even small scale tanks. As a result, it is estimated that from a third to a half of the potential supply runs to waste.

One of the most important irrigation practices is the käriz or qanats, a gently sloping tunnel which leads along the axis of an alluvial fan, bringing ground water for irrigation from the upper slope to the surface lower down. The slope of the käriz is somewhat more gentle than that of the fan, and the käriz may be miles in length. A line of wells is dug at intervals and connected at the bottom by a continuous tunnel, three or four feet in diameter. Near the mountains, the käriz may be fifty feet below the surface. As the foot of the slope is reached, the shafts are more shallow, until at last the water emerges into the open air. In this way, ground water at the base of the mountains is tapped and brought to the surface of the plain. When the tunnel caves in or fills with sediment, a distant oasis may need to be abandoned.

241 The construction of käriz involves a heavy capital expense.
312 Some forty years ago, Aurel Stein estimated the cost of a single
471 long käriz in Turfan at over 300 pounds. The risk of failing to
454 find water deters peasants from joining together to dig a käriz, and construction is usually undertaken by wealthy landlords who hire labor. Their reward, when successful, is a monopoly of the water, which they sell to the peasants in return for a share of the harvest. This form of enterprise is so profitable that some landlords sell all their land and invest entirely in käriz.

312 Springs and subterranean flows are supplementary sources of
241 water in some oases. Small pits are used for storage of drinking water in some oasis towns. If these reservoirs are silted and new ones not constructed, the oasis will sooner or later have to be abandoned.

311 The farms surround the oasis, and the utilization of land is
312 determined by the proximity of irrigated land to the middle of the
241 oasis. Land nearest the market places for farm produce receive most of the fertilizer, in the form of night soil, and intensive garden cultivation of vegetables and fruits is practical on this land. Within this zone some cash crops such as apricots and other fruit are usually grown for the market. Beyond this inner area, the amount of fertilizer applied decreases rapidly. Two other zones follow where practically no fertilizer is used and hardier crops such as millet, kaoliang, and potatoes are planted. This land must be fallowed. Beyond this zone there is usually no water and the desert begins abruptly. The fringe area may sometimes be used for grazing, particularly of sheep.

175
242 The Soviet Union sent
668 thirty-three airplanes and large numbers of locust experts to
433 spray insecticides over an area of some 2,669,000 mow (or
[177] 405,688 acres) during 1952-1955. On the state farms, the Army
[475] has done the lion's share of the work of reclaiming land, building
[701] irrigation works, erecting experimental farms and stations and operating them. (Union Research Service, Oct. 14, 1955. p. 7, No. 9.)

654 The Communists reported that they have given financial and
668 technical assistance to the various nationalities who till the soil
241 or engage in pastoral activities. By the end of 1954, agricultural
175 loans totalling some 26,140,000 yuan (U.S. $1,061) and some 46,000 farming implements had been supplied to the peasants, enabling every peasant household to have one trowel of its own and every 1.3 households to own a plow. These small figures indicate that assistance has been meagre; but even this might enable the peasants to increase output as compared to output obtained by previous farming implements.

241 Whether agriculture will prosper in Sinkiang depends entirely
312 on the steps taken in water conservancy and the proper utilization
668 of water. Already five million additional mow of land (160,000
175 acres) have been irrigated in the past six years and the irrigated acreage in 1954 has been increased by 30.2 per cent since 1949. Reservoirs have been constructed like the well-known "Red Wild Goose Reservoir" and the "Peace Reservoir" which both now irrigate more than 237,000 mow (36,024 acres of land). Three
[475] state farms, collective farms, and a dozen or so agricultural co-
[474] ops have been formed in the area.

231 By the end of 1954, the total number of livestock in the whole
433 province numbered 17,105,000 head, an increase of 7.47 per cent
175 over 1953. (In 1947 the total number of livestock was 15,037,000.
668 The figure reported for 1954 indicates a 13 per cent increase.) The plan for 1955 is to raise the number fo 18,987,567 head, a net increase of 11 per cent. This will include 537,280 head of large and small animals of improved breed (including 515,792 sheep, 7,930 large domestic animals, 13,538 pigs); 2,839,140 head of livestock will be innoculated against or cured of various diseases. The Chinese Communists complain, however, of many defects in animal husbandry. During the past winters, insufficient feed was gathered and many animals died. It was estimated that some 200,000 died in the spring of 1954, an approximate loss of one per cent per annum.

313 The forestry policy has been to protect existent forests from
668 fire and damage, to survey forest areas suitable for afforestation, to plant saplings there, and to afforestate areas near rural villages for the development of co-ops and state farms. Each year, the quota mou to be afforestated is set and state departments undertake to meet these quotas. Nurseries have been built and seedlings planted in these tracts.

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

mud floor was transformed into a series of mud pits so treacherously slippery that we had to move about with the greatest care. During a fine spell between two storms the Commanding Officer appeared at our door to return our call. We were not sorry that he should see our plight, but his only comment was: 'This is a small place, and the inns are poor. I suppose that in England your hotels are all better than this?'

Though we suffered so much discomfort from the rain, we were secretly rejoicing, because news was brought to us that a number of young men had escaped that night, and thanks to the rain had not yet been recaptured. Hsinghsinghsia has the only spring of water in an immense area, and the patrols found it sufficient to watch the next springs on either side in order to take deserters. As the hunted man crept stealthily to the water's edge to slake his thirst under cover of darkness, the mounted soldiers seized him, bound him and drove him back to the camp, where many had died from the severity of the flogging received. After the rains, however, little pools of water collected in the hollows of the granite rocks, and thus enabled the fugitives to leave the main road and so reach freedom. Many deaths had occurred through pedestrians, or mounted travellers, trying to cross the frontier without passing the camp. One day six riderless mules were captured, the men having, doubtless, died of thirst in the sands.

It was very touching to see the delight with which groups of these poor men would gather around us and talk for long hours. We had travelled so much in North China that we knew the localities from which several of them had come. Some from Shansi found that we actually knew the very villages where their parents lived, and in some cases we had even visited the homes of relatives. One youth was the son of the

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

these proved to be gold-mines from which the sand, having been removed in baskets, provides a fair amount of gold-dust, after being washed out. In some places[1] the grit on which we walked was composed of minute granite fragments of every colour, and it was very interesting to notice that the little, grey, desert lizard, which had never left us all through our travels, had so accommodated itself to the soil in which it lived that its skin had become many-hued, like a beautiful mosaic, so that it was indistinguishable from the surrounding ground.

A large temple stood on an eminence not far from the ravine, and here we found the lamas, who had been as prompt as ourselves in quitting the camp, burning incense and making obeisance to the gods. The lamas expressed some surprise that we neither burned incense nor prostrated ourselves, nor sought the blessing of the Guardians of the Road by striking the temple bell with its wooden hammer to call their attention. We were the only travellers on that road who would dare to take such a journey without observing this ritual, and such an omission must be either a sign of impiety or that we enjoyed the protection of a power superior to any god in that temple. 'We never start on our day's journey without asking the blessing of God,' explained one of our carters, who two months previously would have been as unwilling as the lamas themselves to leave without the blessing of the Goddess of Mercy.

It was fortunate for us that this first journey, taken as it was by day, was not an abnormally long one, and by 10 p.m. we reached Shachüantz—'The Spring of the Sands'—but unfortunately it surpassed all the others we had hitherto sampled for the bad quality of its water, which was metallic as well as bitter and salt. The slabs of granite over which we had driven had,

[1] [Near Hsinghsinghsia -- Analyst]

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

494 moreover, told badly on our cart-wheels, and one of the spokes had cracked; all the same we pushed on, resuming the night stages. The hour of departure was fixed for 6 p.m., so the whole party ate a meal at 4 p.m., after which the care of the animals, packing the carts and settling the inn account kept us busy until we left.

000 As soon as we were clear of the village, according to our habit, we enjoyed a time of reading aloud, the smooth, sandy roads keeping the cart so steady that without undue fatigue to the eyes we were easily able to do so. As daylight faded, however, we dismounted for our evening walk, which generally continued until darkness fell, for we had not our carters' gift of seeing by night. At this time of the year there were only about seven hours of darkness, yet always at sunset the icy chill seemed to rise from the surface of the sand, when everyone at once put on an extra garment. Then silence fell on the party, and the only sound heard was the rhythmic clang of the great camel bell which swung from the axle of our big cart. The crescent moon rose and set; we watched the great stars move slowly across the sky; on the horizon magnetic fires rose and fell, and when the driver touched the mules with his whip a flash of light appeared. The space, the silence, the darkness, the loneliness all produced a state of consciousness when the accepted values of life seemed readjusted, being found to be curiously different from those accepted by day in the busy throng. Day uttereth speech, but night showeth knowledge; and we have remained wiser women for the meditations of those Gobi nights.

494 312 Our carters had frequently made reference to a stage of unusual difficulty and length still lying ahead, and at Kushui—'The Spring of Bitter Water'

S.Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

—we found that we had reached it, and that 46 English miles still divided us from Kotzyentun— —' The Dove Tower '—which was the next oasis. We now occasionally met a convoy taking supplies to the troops, and at the ' Spring of Bitter Water ' our carters were delighted to find a string of carts returning to Hami, whose drivers proposed to travel with us. So all started in good time together for the record march and made good progress until 1 a.m., when, without warning, two sections of the wheel rim detached themselves and fell to the ground. The situation would have been hopeless had it not been for our fellow-travellers, but now in the space of half an hour the Chinese evangelist came to an arrangement with one of the carters to transfer us and our baggage to his cart, the remainder of the party staying behind to patch up the wheel and to drag the empty vehicle somehow to the end of the appointed stage.

Meanwhile we jolted along, but before we reached ' The Dove Tower ' the sun was high and the scorching heat was almost intolerable, for there was no cover and we were wholly unprotected from its rays. All the same on we jolted, sitting upon some mysterious boxes, which were the cargo of our new conveyance ; but before long the aroma with which we seemed to be surrounded caused us to enquire what merchandise was being conveyed over this desert road. ' Dead mules,' was the answer. ' Two of mine have just died, so I have packed them into those boxes to sell for meat further down the road.' The end of the incident was, that we bought the meat, and promptly abandoned it !

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

door the darkness is almost complete. Experience in travel, however, enables one to appreciate the fact that in this dark hole: 1. The rays of the sun being excluded, the traveller (whose only rest is taken by day) has a good chance of sleep; 2. The heat does not easily penetrate this earthen dwelling; 3. The darkness is so distasteful to flies that once the room is shut up they voluntarily leave by the hole in the roof; 4. The Gobi wind and swirling sand are as effectively excluded as possible; 5. The tired traveller may sleep as soundly as he pleases, there being no aperture through which a stealthy hand can introduce itself and abstract his goods while he slumbers.

We had been in bed for about three hours when we heard the sound of the derelict cart approaching the inn. It was quite unmistakable owing to the thud given each time when the injured portion of the wheel met the ground. There were a few deep groans from the driver; a brief conversation with the innkeeper; and then, silence while the exhausted men slept.

In the afternoon a council of war was held, and the Turki driver of our rescued conveyance was induced, for a moderate sum of money, to fill up his empty cart with the heavy luggage, which he undertook to deliver in Hami. There was no blacksmith nor wheelwright in the village, but a venerable Turki volunteered his amateur services, and by means of a length of rope, a few nails and the skilful use of an adze, before nightfall the wheel was so far repaired, that by letting the cart go empty we hoped to bring it in safety to Hami.

Our next night of travel brought us to the well-named oasis of Changliushui—'The Inexhaustible Spring.' As we approached by moonlight we suddenly caught sight of a tree, the first we had seen since leaving

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

Ansi, and our own exhilaration was shared by the whole cavalcade. The tired mules shook their heads as they smelt the cool verdure, while the carter explained: 'Now our troubles are all over! We have come to sweet water!' Several of the inns were full, but we finally got rooms in a seemingly abandoned courtyard. The landlord was away from home, but a good deal of knocking brought his wife from her bed, and she consented to receive us. In a few minutes the sheep-dung fire was glowing, the water boiling, and we were drinking an ambrosial infusion-tea made with 'sweet water.'

A good number of families inhabited this oasis,[1] and we were now sufficiently far from the Kansu frontier for the normal conditions of travel and business to obtain once more. The various inn yards were full of peasants' carts bringing produce from Hami, and we were also able to buy fresh vegetables and a melon. We sat for several hours in the shade of the trees by the bubbling spring, talking with the women who came there to draw water. It was a restful spot, and it was with regret that we left it. The next dawn brought us to Hwanglukang—'The Hill of Yellow Reeds.' Here the character of the country changed, the village being situated in the midst of rolling steppes, where tall grass supplied abundant provender for cattle. In this place we saw the cattle all kneeling before tussocks of coarse grass which they had worn down to smooth hummocks with the rubbing of their necks. The appearance was very strange and gave the impression of an act of worship. In the afternoon we wandered out to see the village and its inhabitants, calling at the Mosque, where we found a venerable Ahung—courteous, dignified and friendly—surrounded by a group of little boys, to whom he was teaching the Koran. They were

1[Changliushui -- Analyst

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

Hami is by far the largest and most fertile oasis through which we had passed. For six miles before we sighted the town we were travelling in highly-cultivated land, abundantly watered, and between fields of wheat, cotton, millet, maize and sorgum. Approaching the town we passed through a fine avenue of trees; the sky overhead was cloudless, and in the background the snow-peaks of the Karlik Tagh Range glittered in the sunshine. At that moment a group of girls in long scarlet dresses and flowing white veils came running down the road chasing a herd of unruly donkeys. They gave the last touch to a brilliant scene of prosperity and riotous colour.

CHAPTER XXXVI

THE WONDERFUL CITY OF HAMI

THE beauties of Hami exceeded all our expectations, high as these had been. The inn in which we stayed was situated in the large, unwalled, commercial area of the town, and the landlord was a wealthy Moslem Turki. When our drivers turned into the spacious, open courtyard bordered with well-kept flower-beds, and surrounded by rows of well-built rooms, we could scarcely credit that this was the 'inn' of which Mr. Hunter had spoken so modestly. A suite of three rooms, communicating by inner doors, was allotted us, and we found that we were the first tenants to occupy them. The windows were newly papered, and with a fresh, clean matting on the *kang* all was spotlessly clean. There was no stabling provided, however, so after unlading, our drivers, carts, and mules departed to another inn of a more ordinary type. We had the

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

indicate. The former lies across Chinese Turkestan to the south of the Tian Shan Range, passing by Kuche and Aksu to Kashgar; the latter, cutting through the Tian Shan Range, runs along its northern side, through Urumchi to the Ili Valley and Kulja. It was this latter route that we followed.

Our cart was returned by the wheelwright fitted with splendid new wheels, the mules were rested, and all promised well for the next lap of the trail. A Chinese traveller's proverb speaks of the long journey from Suchow to Hami as 'unmitigated bitterness,' and of that which still lay before us as a medium between the 'bitter and the sweet.' Certain it was that we had reached the end of most of the brackish water oases, and we found that the plain which now lay before us was, in most places, duly supplied with springs and wells of sweet water. The three halts beyond Hami are known as 'the First, Second, and Third Stops,' and the traveller is expected to do the three stages at a pull. However, after eleven hours we only reached the second halt, and refused to go further. The first night-stage on leaving a resting-place was always particularly trying, coming as it did after a busy day of final preparations and farewell calls. There was no possibility of rest by day or by night, and at the end of twenty-four hours we were always dead beat.

'Second Halt' was an attractive place, watered by a rushing stream. The village was much larger than those south of Hami, and there were apple trees laden with nearly ripe fruit hanging over the walls of the farms. After some hours of sleep, we got up to find the courtyard invaded by a band of men travelling from their homes in Shansi to their business in Kucheng. They were all employees of a large firm, and by the terms of their agreement were allowed to visit Shansi

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

133 The next dawn found us at a beautiful spot called
312 Yatzchüan—'The Duck Pond.' It held a 'living spring,' that is to say, one in which the water is in constant motion, welling up from the sandy bed, sometimes with such force as to set the whole pond in ebullition. Every few minutes the depths were strongly disturbed, and a trembling column of sand would rise to the surface and then break in large bubbles. The oases through which we were passing were fed by the same water supply as that which irrigated the fields of Hami. It has been pointed out that the traveller must not allow himself to be deceived by the long, continuous blue line, indicating the flow of imaginary rivers connecting the ranges of the Barkul mountains and Karlik Tagh with visionary lakes. As a matter of fact, the water from the melted snows is lost in the gravel soil at the foot of these ranges, but reappears many miles away in such living springs as that by which we rested, or in a saline well in some depression of the desert. The Khan of Hami owns a house at this place, in which he stays when travelling on official business, and the caretaker allowed us the use of his rooms. They were clean and comfortable, but as bare as an inn. Near the front gate was his private mosque, decorated with a picture of Mecca. These buildings were throughout of mud, but the outer walls were yellow-washed, with a view of giving to the whole an imperial aspect.

133 On leaving the 'Duck Pond' we drove for twelve
[185] hours on a long, arid, stony, uphill stage, and shortly after sunrise arrived at an isolated inn. For several days each stage had brought us nearer to the foothills of the Barkul Range, and here we were so close that only three days' journey north-east divided us from the
133 town and lake of Barkul, both of which lie on the other
136 side of the Range. In these mountains are herds of wild

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

lighted, as the most sure means of keeping unwelcome guests at bay. The tins of Keating's powder, which we had on order, had failed us with the other stores, but even had we secured them, nothing can finally circumvent these insects, which creep along the rafters and drop from the ceiling on to the hapless victim beneath! We were soon fast asleep, but at dawn a still worse plague faced us, for the walls were black with loathsome flies, and not one moment's peace did we know throughout our Sabbath rest in Muleiho.

The little town was in the proud position of having been lately raised to the civic status of a '*hsien*' city, in consequence of which it now had its own Resident Civil Magistrate, whose new Yamen had just been erected.

A wooden bridge spanned the wide river which rushed by the city wall, and here the inhabitants were wont to gather in the cool of the day, at the hour when all the animals of the city were led down to be watered.

The arable land was extensive and splendidly irrigated, and there was every sign of prosperity. Strings of little donkeys, driven by Turki vendors, constantly passed our inn door laden with baskets of grapes from Turfan. The large black and white grapes were not yet ripe, but the small seedless variety was plentiful and cheap. This is the kind from which the Turfan sultana is produced in such abundance.

A band of children, with whom we made friends, took us up to a court in the Yamen buildings to see a red deer, which had been caught young in the mountains and was being reared in captivity. Its antlers were particularly fine, and we noticed that all the medicine shops of Muleiho were decorated with splendid specimens of such antlers, which are highly valued for medicinal purposes.

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

When we were about one mile from the gate of Kucheng, 494
a yell was heard, and our men hastily drew up, saying, '*Kwai che lai liao*'—the Express is coming! and in a swirl of dust, and with a wild jingle of many harness bells, three long-limbed, bony horses galloped madly past under the lash of the driver, who, having just caught sight of the town entrance, was bringing his team through the city gate and up the main street at a pace calculated to impress the populace! It was then that we saw the body of the cart was simply made of long poles lashed together, on which two passengers, clinging to the framework, were being hurled from side to side by the violence of the jolting. One glance at the 'Express' quickly satisfied us that such a mode of travel, while excellent for postal parcels, would be hideous torture to ordinary human beings if nerves formed any part of their anatomy, while some might scarcely survive the fifty-four hours of this frenzied mode of dispatch.

From Kucheng onwards it was no longer necessary to 484
make night stages. Hot as it was, the animals stood it 312
well, as each midday brought us to a wayside foodshop, where we were able to get something for ourselves and water for the mules, and the nights were now spent in towns of some importance. The direction of the road was south-west, as we had reached our most northerly point at Kucheng, and we were now following the line of the Tian Shan towards the dip which marks the position of Urumchi. The highest peak of this part of 133
the Tian Shan was now coming into sight, the great Bogdo-ola—'The Mount of God'—which rises twenty thousand feet, and is seen from a great distance. This summit, with its surrounding peaks, is of a grand and rugged shape, and lends distinction to the country which would be insignificant were it not for this arresting

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

CHAPTER XLI

THE CAPITAL OF SINKIANG

175 URUMCHI first comes into historical prominence under the name of 'Bishbalik,' the capital of the kingdom established by the Uigurs in southern Dzungaria. Driven out from their first home in the northern part of this province, they wandered south until they found a resting place on the slopes of the Celestial Mountains, and also in the watered land as far as Hami, which territory they transformed so as to make of it the fertile district which it is to-day. The middle of the eighteenth century marks the period, when under the great Emperor Chien Lung, Chinese ascendency finally asserted itself in Dzungaria.

487 Urumchi is situated at the junction of four great
175 trade routes. One crossing Mongolia, another leading
through Hami to Kansu, a third connecting it with
361 Ili and Russia, and a fourth with Kashgar. It thus occupied a position obviously suited to make it the capital of the New Dominion, called by the Chinese 'Sinkiang.' The city has been the battle-ground of many contending forces, having been taken and retaken by Mongols, Chinese and Mohammedans, while during the great Mohammedan rebellion in 1865 it is estimated that 130,000 Chinese were murdered in the vicinity. The word 'Urumchi' is of Mongolian origin; to the Chinese the town is known as 'Tihwa,' but colloquially it is referred to as 'Hungmiaotz'—'The Red Temple.'

[312] It is well supplied with water, and with coal of various
[438] qualities, and is in easy communication with Manas,
from which it draws grain, especially rice; with
439 Turfan which helps to supply it with fruit, and with

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

other's sleeve. The Qazaq woman frequently accompanied her husband, dressed in her best black quilted coat, and wearing a white cotton headdress swathed round the chin with a kind of gorget which becomingly framed the broad tanned face.

Our excursions round the town led us in every direction through rough and muddy streets. The weather was hot and the flies innumerable. This was a natural consequence of the season, which was that of the ripe melon, and the habit of the populace which was to buy a slice, eat the pulp, and then throw the rind away by the roadside. In some places the mounds of discarded peel reached to the eaves of the low houses, while dense swarms of flies buzzed gaily around. The wells were all flush with the ground, and we were never allowed to drink water which had been drawn from them. A wide rapid river flows outside the city, and is surmounted by an imposing rocky cliff, on which stands a pagoda. Beyond this are the trees of the Governor's park, which enclosure contains a life-sized statue of himself. The character of the masses of the Chinese population is distinctly different from that of the large towns within the Great Wall. These are colonials, and inevitably differ from the dwellers in the homeland, even though tenaciously adhering to its every manner and custom. On arrival, according to etiquette, a formal call was paid to the Governor's wife, by whom we were very graciously received. Governor Yang also came in, sat down with us, and talked on many subjects. He asked several questions concerning the journey we had taken, and showed great interest in the educational work which we had accomplished in Shansi. The policy of this strong autocratic ruler is that of complete segregation of his people from the turbulent nations which surround them. To

3:Cable & French M-5 (1926) 1927 AF13 Northwest China
Sinkiang AI 1

491 mounds and clumps of saxaul, brought us to the borders of the Kueitun River, by the banks of which was a 133 village where we spent the night. The river, which was wide and rapid, was crossed by a good bridge. From our inn court we had access to the bank, so we took advantage of the running water to wash a few clothes, not that we expected to make them the cleaner by dipping them in the yellow flood, but as fleas were very bad we hoped that some of them would be carried away by the force of the current.

491 At 2-30 a.m. Sandy Macnab fetched us out of bed for an early start. A twenty-five mile drive, over loose sand mixed with loess, brought us to one single hut where a handsome Chantow woman and her daughter, wearing red veils, talked to us while we boiled a saucepan of hot water and cooked a meal. There was only one well, with a very poor supply of water.

• [312] The thirty miles of the afternoon stage to Hansantai traversed a road so hard and even that it would have been reckoned as a good motor-track in any country. Here we rested for the Sunday. We were now near a 579 region where many travellers had been robbed, for the country was wild in the extreme and offered a natural protection to brigand bands. The Governor had placed a military guard at this point, to supply escorts as needed, and a band of mounted police patrolled the 167 roads. In this lonely spot lived two old men, brothers, who told us that at the age of fourteen and sixteen they had run away together from their home in Sian, and wandering to 'Kow Wai' had lived here ever since, never returning to their relations, nor even ever hearing of them again. They were now both over sixty years of age, and their one pleasure in life was to sit and talk with travellers from China, from whom they were never weary of hearing of the glories of modern Sian.